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## **Simondon and the technologies of control: on the individuation of the individual**

Despite the availability of his work being at the time limited to the sole publication of his doctoral theses, Simondon's thought managed to achieve some noteworthy recognition among his contemporaries. One of the most evident manifestations of this appreciation is the review of *L'individu et sa genèse physico-biologique* (Simondon 1964) that Gilles Deleuze wrote in 1966 (Deleuze 2004). In this essay, Deleuze expresses his appreciation for Simondon's concept of individuation, defining it as a 'respectable, even venerable notion' (86). This concept rests on the idea that individual beings represent only the temporary effects of more fundamental processes of becoming. Rather than moving from already formed individuals, philosophical descriptions of the world must start by considering the complex series of processes behind the genesis and transformations of beings: that is, to think individuation before and beyond individuals. Consequently, when accounting for the transformations of individuals, this process must not be considered as the mere transition between stable states. For Simondon, in fact, the illusory fixedness of stable states approximates the more complex state of metastability. Metastability is the condition in which dynamical systems can be pushed beyond equilibrium by even minimal alterations in the play of forces they are subject to, and change, at times unpredictably and irreversibly.

The notion of metastability shows already the importance, for Simondon, of considering processes of becoming in relation to their respective milieus. This connects to an attention to thresholds, biological membranes and topology, that Simondon shares with Deleuze, who highlights that 'on this point Simondon has written an admirable chapter, "topology and ontogenesis"' (88). The connection between individuation and topology represents a crucial node of the intersection between Deleuze and Simondon, and its importance emerges even more clearly from the latter's critique of hylomorphism.

### ***The politics of hylomorphism***

Taken up also in *A Thousand Plateaus* (Deleuze & Guattari 1987: 39-74, 369), this critique targets a remnant of Aristotelian doctrine that depicts beings as the products of an imposition of pure forms on undifferentiated matter. The hylomorphic scheme reduces drastically the variety of factors determining ontogenesis and triggering transformations, wrongly attributing ontological primacy to form. Interestingly, Simondon believed hylomorphism to be more than a mere approximation of the processual character of reality, and to originate from forms of social inequality:

What the hylomorphic schema reflects in the first place is a representation of work and an equally socialized representation of the individual living being... It is essentially the operation commanded by the free man and executed by the slave; the free man chooses the matter... The form corresponds to what [he] conceived... and that he must express positively when giving his orders... The distinction between form and matter, between soul and body, reflects a city that contains citizens in opposition to slaves (Simondon 2005: 51)

Sharing this idea, Deleuze and Guattari write that

The "hylomorphic" model [implies] both a form that organizes matter and a matter prepared for the form; it has often been shown that this schema derives less from technology or life than from a society divided into governors and governed, and later, intellectuals and manual laborers. (Deleuze & Guattari 1987: 369)

Brick production assumes a paradigmatic value in Simondon's critique. In his example, the cast plays the role of the pure and active form imposed on the clay, which is merely regarded as a formless substance: 'the free man chooses the matter, [that is] indeterminate since it is sufficient to designate it generically by the name of substance without seeing it, without manipulating it, without preparing it' (Simondon 2005: 51). By modelling becoming on the practice of moulding, hylomorphism reflects the structures of power that justify the necessity for systems to be organised by transcendent factors. In order to impose themselves undisturbed, however, these forms of domination need diminishing systems' potentiality for self-organisation and concealing the influence of the milieu on the operation.

Simondon contrasts the primacy of form as ideal principle with a more concrete process of *in-forma-tion*: this essentially describes the emergence of form rather than its imposition, by outlining all the forces that contribute to the appearance of specific forms, their effects and their co-dependent variations. As a consequence, Simondon maintains that morphogenesis is better described in terms of modulation than of moulding. As he writes in his major thesis, in fact, for him 'Individuation *is* a modulation' (Simondon 2005: 219). In general terms, modulation can be defined as the continuous variation of a line of becoming that is not segmented by the hylomorphic dyad form-matter, but changes in response to both external and internal factors. According to the philosopher, 'modulation is the transformation of energy into structure' (431). Contrary to the hylomorphic perspective, then, matter is eminently active for Simondon, and must be conceived as the result of an interplay of forces that constitute emergent structures. The configuration of these interactions between forces characterises the tendencies and capacities of systems, and the milieus in which they unfold trigger, influence and contribute to regulate their transformations.

Individuation is relational, individuals are neither static nor closed systems, and modulation is a non-periodic wave of becoming whose inflexions are determined by the impact of external forces and by the emergence of effects related to self-organisation. These elements act on the process of individuation, all contributing to determine its uninterrupted development.

### ***The age of control***

Informed by a profound knowledge of technical processes and aware of their relation to structures of power, Simondon's work dispels the black box constituted by the ideal mould evoked by hylomorphism and articulates the notions of individuation and modulation in relation to topology. This conceptual node connects three points of interest for Deleuze, who contemplates these notions in Simondon's work and put them to use in his own. As testified by the few explicit references scattered through his major works, in fact, Deleuze's philosophy was significantly influenced by Simondon's thought (Hui 2015). Because of this, the past years have seen the publication of a growing number of scholarly analyses of the effects, uses and transformations of Simondon's central concepts in Deleuze's corpus (Sauvagnargues 2016; Scott 2017).

Not proposing another map of these relations, but trying to sketch an additional zone of it, this essay attempts an application of Simondon's concepts beyond their historical constraints: an experiment made possible precisely through their interaction with Deleuze's philosophy. Indeed, as highlighted by Alberto Toscano, the significance of Simondon's philosophy for Deleuze can be either used to retrace the evolution of his thought, or to connect the two 'in the delineation of a problem that exceeds them both' (Toscano 2009: 381). The problem we would like to outline and connect to this intersection between the works of Simondon and Deleuze regards the use of digital machines as technologies of power and its effects on society. Especially since the configuration and use of privately-owned computational technologies has recently revealed how much they can influence political scenarios (Cadwalladr 2017), the speed and modality of the changes digital technologies are provoking to our lives call in fact for an urgent reflection. Despite both philosophers did not have the chance to confront with the actual situation, Deleuze's *Postscript on control societies* (Deleuze 1995) expresses its late concerns for this issue, containing at the same time a series of thought-provoking references to Simondon's work.

Deleuze's text revolves around the transition he diagnoses between societies characterised by the diffusion of Foucauldian discipline, made to correspond to the age of industrial machines, and an era of *control*, a new model of domination made available by digital technologies. Deleuze claims that this new age is not characterised by an hylomorphic form of power, but by a constant modulation: 'controls are modulations' he writes, clearly adopting Simondon's concept (178). The philosopher maintains that modulation operates 'like a self-transmuting molding continually changing from one moment to the next, or like a sieve whose mesh varies from one point to another' (179). This definition characterises control as the continuous adjustment of power in relation to the variations of the matter on which it is exerted. Employing the opposition between moulding and modulation proposed by Simondon, Deleuze's essay translates it on a political plane, mapping two types of technologies of domination: Foucauldian discipline as the hylomorphic imposition of order on the body, and control, as a modulation of the human, no longer conceived as merely passive receptacle of fixed forms.

Control develops as the result of a series of conjoined transformations: the first consists in the fact that capitalism, from its industrial form, starts to transition towards the paradigms of service economy. Deleuze writes that digital capitalism, 'no longer buys raw materials and no longer sells finished products...What it seeks to sell is services' (181). A second transformation, triggered by the first, relates to the difference between tools and instruments Simondon hints at in his work on the technical object. There, we read that

by tool one understands the technical object enabling one to prolong and arm the body in order to accomplish a gesture, and by instrument the technical object that enables one to prolong and adapt the body in order to achieve better perception; the instrument is a tool of perception. (Simondon 2016: 130)

If we think of industrial machines as automated tools, digital technologies can be considered as automated instruments. From a certain point of view, these are machines that broaden the capacity of cognition, enabling their users to relate to distant objects by bringing them closer via the cyberspace. If the first type of machine was meant to automate and reproduce gestures, digital instruments, in their most diffused and accessible form, are meant to suggest cognitive connections. The third transformation consists in a change of milieu: if industrial machines have segmented individuation in a form of disciplinary hylomorphism, this is because of the specific milieus they shape. As a site of enclosure, in fact, the factory is built around the mechanism of industrial production and

the school, around analogue or live teaching techniques. The digital entails instead a new type of space in which one produces and re-produces contents and studies on MOOCs.

What changes between the industrial and computational ages is the milieu that the correspondent machines generate for the worker or the user. In the first case, these environments can be classified as Euclidean. These are spaces subject to a transcendent source of order like the Cartesian axes, which overdetermine an unformed space in order to organise it. Foucault has notoriously seen factories, barracks and prisons as such kinds of spaces, the configuration of which is functional to an imposition of order “from above”: ‘It was a question of distributing individuals in a space in which one might isolate them and map them... It was a question of organizing the multiple, of providing oneself with an instrument to cover it and to master it; it was a question of imposing upon it an “order”’ (Foucault 1995: 144, 148). Disciplines maximise efficiency and prevent strikes, riots and freedom of movement, concealing the self-organising power of the elements they organise. As we will show in the next pages, computational machines connected to the web generate instead a non-Euclidean or topological milieu, a space whose configuration is not prepared by the imposition of hylomorphic forms of organisation.

Simondon clearly understood the milieu to be in process as well, but the operation through which the cyberspace relates to processes of individuation seems to us to respond to different rules than in analogue environments. Following Deleuze’s warning regarding the adoption of the digital as a technology of power, we should ask how, in their present state, processes of psychic and collective individuation are filtered and modified by the digital. This task necessitates careful consideration of new individuations taking place through and within digital milieus.

The last transformation highlighted in the *Postscript* is precisely related to individuation. Showing his concerns in relation to the processes taking place in the digital age, Deleuze notes quite cryptically that, in the age of control, ‘individuals become “dividuals”, and masses become samples, data, markets, or “banks”’ (Deleuze 1995: 180). Unfortunately, he did not expand on the notion of dividual, that nevertheless points at a new phase of individuation engendered by the diffusion of computational technologies: the individuation of a digital entity that is taking place in the new milieu fashioned by the computational. This process begins with the extraction of data points from the activity of individual users, that are made to correspond to personal features and converge in the process of individuation of a digital entity. Despite not corresponding to individual users, this entity influences their processes of individuations: the individuation of the dividual constitutes in fact a means for the modulatory control of the user. Users individuate by interacting through and with a digital milieu, their actions online feed the individuation of the dividual, and this process constitutes the basis on which the digital milieu through which users individuate gets modified by suggestion algorithms, influencing in turn their individuation.

With this essay, we will attempt a description of this process: an account that will be based on one side on Simondon’s philosophy of individuation and, on the other, benefit from Deleuze’s ideas with regard to topology, which allow to understand certain political phenomena related to the transformation of space. Indeed, if Simondon’s philosophy allowed Deleuze to define the passage between a hylomorphic mode of power and an informational one as the overwriting of digital modulation on top of disciplinary moulding (Deleuze 1995), the description of these forms of domination cannot neglect the relation between topology and individuation (Simondon 2005: 148-156; 223-228) and how digital technologies alter this relation.

In the next pages, we will therefore attempt to project a line of interaction between Deleuze and Simondon, and articulate the notion of individuation, the importance of the milieu and its topology for this process, and the mechanism of modulation. In accord with Simondon’s idea that a description of individuation must consider the milieu in which the process takes place, the first part

of this essay will expose Deleuze's insights in matters of non-Euclidean spaces (Deleuze & Guattari 1987: 474-500) and consider the character of the web as a new theatre of individuation. The second part instead will briefly consider the technical lineage that has prepared the individuation of the dividual in its key features. After, we will focus on the process of individuation of Deleuze's dividual, whose characteristics will be showed to be analogous to those Simondon attributed to the processes of living individuation. It is indeed precisely by virtue of its hybrid character that the individuation of the dividual has been weaponized as a technology of power to perform the control Deleuze was warning about in the *Postscript*: as a digital individuation that works as a living one, the individuation of the dividual allows a virtually limitless modulation of the user through microtargeting techniques.

In the last section, we will then show how the dividual can accept information an indefinite amount of times, as in the case of vital individuations (Deleuze 2004: 88), even if it constitutes as the coagulation of data around a digital germ, as in the case of physical individuations (Simondon 2006: 32-33, 75, 78-79). We will highlight that, precisely because of this hybrid trait, the dividual allows for the incessant modulation of the user.

Addressing the topic of the individuation of the dividual amounts at describing the keystone on which our interaction *with* and *through* digital platforms are designed, and the fulcrum around which psychic and collective processes of individuation take place in the context of computational capitalism. In our conclusion we will propose that the digital represents an effective means of domination precisely because it operates through a particular type of milieu, a digital environment that allows the individuation of the dividual to take place as a technical process of hybrid individuation: a process that replicates a living individuation *in silico*, adding the flexibility of living individuations to a digital tool.

### ***Riemannian cyberspace: a new regime of individuation***

As mentioned above, Simondon describes becoming through the notion of individuation. The condition of possibility for this process is the relation of a line of individuation with the milieu in which it develops: 'the principle of individuation, in the strict sense of the term, is the complete system in which the genesis of the individual takes place' (Simondon 2005: 63). This is a fundamental prerequisite for Simondon's critique of the hylomorphic model and underlies the idea that the seat of individuation is always open, namely that the processes of individuation are incessantly fuelled and influenced by the forces that compose the milieu: 'what individuation makes appear is not only the individual but the individual-milieu couple' (25). The set of relations between what is individuating and its associated milieu has a series of possible configurations, that characterise what Simondon calls *regimes of individuation*. These regimes are constituted by the arrangement of the relations characterising different domains of reality and determining the relative processes of individuation: 'Instead of presupposing [the existence of] substances in order to account for individuation, we take the different regimes of individuation as the basis for domains such as matter, life, spirit, society' (32).

As different social and technical environments generate the condition for as many regimes of individuation, it appears every day more clear that the digital is producing an entirely new regime. Circulating in a cyberspace now almost ubiquitous, the contemporary user is individuated by the digital machinery of platform capitalism. This individuation can be modelled adopting Simondon's methodology: 'The method used doesn't consist in assuming from the beginning the realized individual that is in need of explaining, but to take the complete reality that precedes individuation.' (64). This means that, in order to understand our condition in the eyes of the machine, and how its

vision changes what we are, it's important to consider the nature of the milieu through (and *in*) which a new type of individuation takes place.

Humans have always produced objects in which they could circulate, from dwellings and cities, to big machines like ocean liners' engines, and Foucault's work on sites of confinement has shown that the organisation of space structuring functional environments is crucial in the constitution of relation of power. In a recently published article titled *L'Homme et l'objet*, Simondon defines these kinds of objects as 'enveloping'. The peculiarity of these structures is precisely that their configuration alters the internal relations of the set of objects that contain:

For example, in teaching, the discussion around a table does not create the same relations as those of a classroom for thirty [students] or an amphitheatre. Discussing around a table "democratizes" the relations. The classroom... used for a course, leaves a lot of room... to the teacher and allows him to be autocratic. The amphitheatre, with its amplification equipment, immobilizes the teacher but gives a certain freedom to the students. (Simondon 2018: 22)

In this passage, Simondon is essentially describing the circulation of individuals and information in relation to freedom and authority, stressing that power relations change according to the structure of the enveloping object in which they develop. The digital produces a new, peculiar type of enveloping object. In this environment, the circulation of individuals and of information assumes a different character than the ones we are accustomed to. This difference is not limited to the distribution of what crosses or navigates the space, but consists principally in how this milieu connects what it envelops. This is because the movements taking place in such digital enveloping object cross a radically different type of space: the cyberspace is not a Euclidean space, but a topological one, i.e. 'Riemannian' or 'smooth'. Deleuze and Guattari define this type of space as 'An amorphous collection of juxtaposed pieces that can be joined together in an infinite number of ways: we see that patchwork is literally a Riemannian space, or vice versa'. (Deleuze & Guattari 1987: 476)

The process of space-smoothing that culminates in the digital finds its antecedents in the proto-montage of double exposure made possible by early chronophotographic studies, and its pictorial counterpart in the cubist experiments with the combination of visually distorted and temporally diachronic chunks of space. Cinema subsequently developed this process more fully in the different declinations of film editing techniques. In this context, in fact, if the "sub-medium space" of a sequence shot can be said to be Euclidean, the one of a *montage* following cross-frame movements is Riemannian, a space of connection or *patchwork space* (476). The essentially technical process of Riemannianisation of space doesn't stop at the structuring of visual spaces, but shapes the navigable space of the web, in which hyperlinks allow the seamless recombination of synchronic but non-contiguous chunks of space and the speed of communication erases almost entirely the delays in transmission related to distance. This operation structures a new paradigm of circulation that entails the emergence of an equally novel regime of individuation.

The difference between analogue and digital enveloping objects, and between Euclidean and topological spaces is not just relative to different systems of representation of space, but tied to what one could do with them, and maybe more significantly *in* them. On this note, what is important in the discussion of smoothness and striation is not only their difference, but their reciprocal convertibility. Deleuze and Guattari stress that their conversions are not symmetrical: 'How does smooth space become striated? How does striated space become smooth? These are not symmetrical operations and their mixtures and tendencies produce different kinds of assemblages' (Adkins 2015: 231). The cyberspace is the fruit of what Deleuze and Guattari define as a 'retroactive smoothing' (Deleuze &

Guattari 1987: 481, 482), a smoothening of an already heavily striated space, namely the scientifically and socially metricized, subdivided, organised and oriented space in which we have always exclusively circulated. This conception has been perfectly grasped by Sasso and Villani, in their definition of the concept of smooth space:

The concept of smooth space represents a particularly fruitful model for thinking of different contemporary phenomena characterized by a valorisation of the dissolution of borders and structures, [as] of fluidity, [of the] unplanned and [of the] spontaneous. In this sense, it is an excellent tool for conceptualizing the cyberspace. Indeed, does not the Internet function precisely as an adirectional space, unpolarized and non-mappable, where images are tied and untied on plane of equal proximity? (Sasso & Villani 2003: 134-135)

From this perspective then, the digital constitutes a Riemannian or smooth space. If the infosphere has achieved its smoothening with the development of the world wide web, soon after, it has however been transformed in a new territory to dominate. In their study of these kinds of spaces, Deleuze and Guattari already noticed this possibility: 'The sea, then the air and the stratosphere, become smooth spaces again, but, in the strangest of reversals, it is for the purpose of controlling striated space more completely' (Deleuze & Guattari 1987: 480). Originally spread as an instrument of freedom, this space has soon revealed its potential for control and has then been striated again, co-opted by capital and transformed into a new, incredibly effective means for domination. As Deleuze and Guattari highlight, 'the smooth itself can be drawn and occupied by diabolical powers of organization' (480).

Platforms, in this perspective, are striation styles or motives, whilst search engines hold the power of imposing a directionality over the smooth dimensionality of a space not yet captured, showing what "exists" and what it is of importance. This new striation differs from the analogue one because it is subordinated to movement and identification, instead of being dependent on the imposition of restrictions and the standardisation of movements. Its paradigm is not to confine individuals in specific places and to determine their movements through disciplines, but to allow them a certain margin of freedom, and to constantly tailor their domination on the basis of their behaviours.

The character of this space defines then the technology of power that emerges from and is applied to it: control. As Deleuze and Guattari claim in *A Thousand Plateaus*, 'The smooth is the continuous variation, continuous development of form' (478). Echoing Simondon's critique of hylomorphism, control is described as continuous modulation, as the constant variation 'forming a system of varying geometry' (Deleuze 1995: 178). In the smooth cyberspace, discipline yields to control. The latter defines and is grafted upon a new regime of individuation, that operates through 'a modulation, like a self-transmuting molding continually changing from one moment to the next, or like a sieve whose mesh varies from one point to another' (179). This shift in techniques of domination mirrors Simondon's critique of the hylomorphic model, which is based on the imposition of an order ("Make me a brick!"), and now substituted by a process of modulation.

As a theatre of continuous variation, the implementation of cyberspace as a tool for domination is connected to a mutation in capitalism, a transformation already detectable in the 1970s:

It is as though, at the outcome of the striation that capitalism was able to carry to an unequalled point of perfection, circulating capital necessarily recreated, reconstituted, a sort of smooth space in which the destiny of human beings is recast... a new smooth space is produced in which capital reaches its "absolute" speed, based on machinic components rather than the human component of labor. The multinationals fabricate a kind of deterritorialized smooth space in which



points of occupation as well as poles of exchange become quite independent of the classical paths to striation. (Deleuze & Guattari 1987: 492)

Digital capitalism employs the potential for control of this type of milieu, deploying a new modulatory strategy, so that 'Nowadays, exploitation is exercised on the process of individuation rather than on individual entities' (Leonardi 2010), via profiling and microtargeting.

Simondon didn't have much to say about this type of space or the form of control it enables. However, he believed in a deeper form of alienation than the one described by Marx: one related to the exclusion of technics from culture. To help reducing this "technological alienation", Simondon writes in *On the Mode of Existence of Technical Objects*, one must undertake 'a study of the genesis of the technical object' (Simondon 2016: xiii). The next section will attempt such task in relation to the dividual, that we consider as the central tool of control.

### ***The dividual's technical lineage***

Simondon's philosophy will help us understand what happens in this space. Not going so far as to consider patchwork spaces, Simondon acknowledges in fact both the importance of the milieu's topological configuration for individuation and the correspondence between this feature of the system and the character of what is individuating:

The preindividual is the source of chronological and topological dimensionality ... Moreover, it is this assumption of the preindividual character of the first reality that makes it possible to consider the physical individual as being in fact a whole; The individual corresponds to a certain dimensionality of the real, that is, to an associated topology and chronology. (Simondon 2005: 149-150)

Very interestingly, the philosopher notices also that willingly altering the topology of an environment through technology can produce different effects: 'it is by modifying the topological conditions that nuclear energy can be used either for sudden effects... or for moderate continuous effects... consequently, one can say that the degree of individuation of an ensemble depends on the correlation between chronology and topology of the system' (150). In Simondon's view then, the complementarity between the individual as an act and its associated milieu (63-64) is such that the milieu alters individuation just as much as individuals can modify their milieus.

As anticipated, in producing a new, topological space, digital technologies entail new types of individuation. On one side, people individuate *through* the digital, as through a tool or a technique like writing, but on the other hand, something else is undergoing a process of individuation taking place *in* the digital: the monstrous figure of Deleuze's dividual. The rise of digital enveloping objects and the diffusion of a new paradigm of circulation entail not only a new scenario for the individuation of people, but also the individuation of a new type of entity, that is complementary to this kind of space. The imperative of our age is to understand what happens to individuation in the context of cyber capitalism, when this process is mediated through a *digital* milieu, the individuals become dividuals and this very dynamic is exploited as a ground for control. This shift is provoked by a specific technology, and focussing on its origin and development will help us understand how the digital produces the dividual, and how this is used as an instrument of control.

To understand this technology of power, the character and function of the individuals that populate the cyberspace, we must consider the character of the first cybernetic problem. During the Second World War, Norbert Wiener worked on the technology of anti-aircraft missiles, and specifically on the development of a device for the automatic monitoring and prediction of aircrafts' positions that would have facilitated their engagement. Because of this, the origin of cybernetics is in some way related to an epistemological impasse that Florian Sprenger has defined as the 'challenge of relativity' (Sprenger, 2018). With this formula, Sprenger defines 'The operational and epistemic impossibility of... simultaneously determining both of these variables— location and motion— in a single act of observation' (2). Echoing the uncertainty principle articulated by Heisenberg before the war, the challenge Wiener faced has given birth to a technical lineage (Simondon 2012: 49-60) of machines whose fundamental aim is to solve this problem. As highlighted by Sprenger,

Such solutions include the use of feedback loops to extrapolate the future locations of objects, the invention of objects that can independently correct their path by registering their own movement, and finally the self-registration of movement – in other words: from the anti-aircraft predictor over cruise missiles that update their target during flight to drones whose movements can be tracked and operated from a distance. (Sprenger 2018: 3)

The elementary tactic to solve or at least circumvent the problem consists in the prediction of positions based on the analysis of tendencies, and the use of these predictions to direct future actions. This lineage started by machines like Wiener's "predictor" has immensely benefited from the diffusion of the central element of the digital revolution: mobile internet access. The essential precondition of mobile technologies is their constant connection to networks modelled on the GSM and the LTE standards, whose coverage is distributed by radio towers with different frequencies and limited radiuses. When in movement, portable devices often cross the boundaries between these areas. Such passage between different 'cells' would cause a loss of connection if the devices themselves didn't produce data that let them be identified and allowed on the network. For this reason, the technical prerequisite of being connected in mobility is for every device to hold a series of addresses (Sprenger, 2018: 7). With the diffusion of complex systems of profiling and suggestion algorithms, the importance of these addresses becomes crucial: it is in fact because of this precondition to their functioning that digital networks reveal themselves as efficient means of control.

The almost ubiquitous superposition of the smooth cyberspace on the analogue one is due to the technology of mobile networks, which allows constant connection to portable devices. If on one hand then 'it is characteristic for mobile devices (respectively, their users) that they can move (almost) everywhere without losing connectivity' (3), on the other hand, these devices have to self-register on the network to stay connected. 'In this sense, such technologies react to the same challenge as missiles or drones and can be described as a part of a new solution: technologies of automatic self-registration' (3). It is on the basis of these addresses that users are always monitored and their movements are constantly tracked, so that the paradigm of our age becomes to follow rather than to enclose. Allowing free circulation, digital control exploits freedom: '... now freedom itself, which is supposed to be the opposite of constraint, is producing coercion' (Han, 2017: 2). In this scenario, as put by Savat, "'control' comes to be so subtle that it may well present itself in the form of "choice"' (Savat 2009: 57). Because of portability, the digital enveloping object is massive and omnipresent, superimposed to the analogue milieu. In this regard, Savat is right in saying that the sense of dividuality relates to the fact that disciplinary societies and control societies coexist, so that we have two identities, we are doubly trapped (58-59). But this is only part of the picture, what we perceive with our own eyes. What is

perceived by the eyes of the machine is another sense of the notion of dividual, that can be understood by looking at its own process of individuation, triggered precisely by these addresses.

### ***The germ and the cluster***

The importance of addresses appears clear when we look at the mechanism Simondon envisaged for the process of individuation. The individuation of the dividual, in fact, follows the general mechanism of transduction, that is the operation structuring individuation in all the domains.

Simondon defines transduction as:

a physical, biological, mental, social operation by which an activity propagates little by little within a domain, basing this propagation on a structuration of the domain operated from one place to the next: each region of constituted structure serves to the next region as a principle of constitution, so that a modification extends progressively at the same time as this structuring operation. (Simondon 2005: 32)

What the character of the cyberspace changes in the model of transduction described by Simondon is that the propagation of a digital individuation like the one of the dividual follows the line of circulation constituting the patchwork of navigation. In other terms, it structures the milieu by connecting non-contiguous chunks of space. This characterizes the first aspect of the dividual: because 'space and that which occupies space tend to become identified, to have the same power' (Deleuze & Guattari 1987: 488), the dividual is a patchwork itself, a cluster of interactions in non-contiguous portions of the cyberspace.

Considering the individuation of the crystal, Simondon points out that the process is triggered by the accidental appearance of a germ. This is a catalytic structure, a quantum of information, a singularity that provokes the rupture of the pre-individual field's metastable equilibrium and the beginning of the process of crystallisation. The individuation of the dividual can be said to be triggered by a germ as well. This can be an IP address, the IMEI code of a phone or both at the same time, acting as a catalytic piece of information that opens a space of aggregation for an automatically generated cluster of "personal" data. The dividual catalyses a multiplicity constituted by a coagulation of data and enriched by every activity online related to a piece of information. These catalysers, originally developed as identification tags necessary to guarantee constant connection to mobile devices, are then used for control, often delivered as "personalisation", and are discriminated with regard to the accessibility to other sets information or "real-life services", and employed to propose suggestions, be them of political or commercial nature.

According to Simondon, the germ appears in a pre-individual milieu that is rich in potential. When the germ appears, a tension in the problematic field between 'two twin sets not totally superimposable' (Simondon 2005: 203) starts to be resolved. Indeed, in the words of Deleuze, individuation establishes communication between 'disparates', between 'at least two orders of magnitude or two scales of heterogeneous reality between which potentials are distributed', two heterogeneous levels (Deleuze 1994: 246): in our case, analogue gestures and digital operations. These dimensions, the digital and the analogue, are separated and put into communication by a membrane. As rightly highlighted by Anne Sauvagnargues, the notion of membrane plays a significant role in Simondon's account of the individuation of the living, according to a model in which 'interiority and exteriority are not absolute but metastable, relative to each other, and their interfacing surface is itself in becoming, in relation' (Sauvagnargues 2012: 67). In the case of the digital enveloping object,

this surface can be found at the level of the interface, that is the first membrane in the play of 'transductive mediation[s] of interiorities and exteriorities' that feeds the digital (Simondon 2005: 225). Like in the case of living beings then, in which multiple 'stages of interiority and exteriority' (224) are separated by the structures of organisms, the interactive image displayed on a screen is just one of the many thresholds through which transduction moves in the digital enveloping object: the thresholds between different levels of machine language, hardware and software states, but also between single machines and servers have in fact to be taken into account to give a full image of the individuation of a dividual.

The cross-dimensional transduction analogue-digital changes then both the milieus through a logic according to which each action provides the starting point for more precise profiles, and more appropriate suggestions.

As a technical object, the dividual enjoys a great "margin of indeterminacy". Simondon defines this notion as what 'allows the machine to be sensitive to outside information' (2017: 17), a characteristic of environmental sensitivity that, according to the philosopher, marks its real degree of perfection.

As put by Hui in his analysis of the use of this concept in *Du mode* then, 'the margin of indeterminacy supposes... that the machines have flexible schemes, which allow them to become "sensitive"' (Hui 2016). Here, the term 'sensitive', reveals a link to the perceptive, and therefore organic dimension. The changeability of the dividual differentiates significantly control from other technologies of power and reveals the individuation of the dividual to be interestingly close to the one Simondon ascribed to living beings:

there is physical individuation when the system is capable to receive information only once, then individuates by developing and amplifying this initial singularity in a non-self-limiting manner. If the system is able to successively receive several inputs of information, to compatibilize several singularities instead of iterating the unique and initial singularity by cumulative effect and by transductive amplification, the individuation is of vital type... (Simondon 2005: 152)

Highlighted also by Deleuze in his review of *L'Individu et sa genèse physico-biologique* (Deleuze 2004: 88), this distinction is problematic, because it relates to Simondon's conception of automation, which precedes the diffusion of advanced computational systems:

According to Simondon, automation is first of all a phenomenon of the second industrial revolution: it is the image of the automaton that repeats indefinitely the same operation in the factory... Here, Simondon proposes a restrictive vision of the automatism that undoubtedly doesn't correspond to what cybernetics, but also our time, mean by that. (Hui 2016)

Simondon didn't envision the power of variation of the digital, and his definition of the difference between automata and organisms stems from that standpoint. With digital technologies of control like the dividual, the cybernetic mission of steering human beings like machines while modelling machines on the characteristics of living beings seems to get closer to its accomplishment. Today, automata are no longer limited to the mere repetition of a single function, and the algorithms capturing interactions and aggregating data from non-contiguous sites and interactions allow the dividual to automatically update itself and cover or discover areas of interest that can be the object of new predictions.

It is through the harnessing of the indefinitely updatable process of individuation of the dividual, and because of its vast margin of indetermination as machine for the automatic coagulation

of data, that the modulation of control takes place. Instrument for the capture and capitalisation of the future, the individuation of the individual approaches that of the living, and through this closeness exerts an unprecedented power on the human. The individuation of the individual is a hybrid one, half inanimate and half alive, whose character echoes Deleuze's definition of control as a *new monster* (Deleuze 1995: 178).

The smooth cyberspace produces a new 'modality of the relation between man and the machine' (Simondon 2016: xiii). If the industrial age reduced the role of the human to the one of a servant of the machine meant to monitor its functioning, now that this machine has become an environment, a cyber-space, it blends with the background of life, it becomes invisible to the user, that doesn't even monitor it anymore. As the relation of 'who serves who' became inverted (Chabot 2014: 39) in the passage from the tool to the technical individual, the digital inverts the relation between who monitors and who's monitored. The new configuration of this relation is precisely what the machine of control mostly benefits from: a more profound form of alienation reinforced by the invisibility of the machine attached to the human and by the blackboxing of its mechanisms. Thanks to their character, these allow a certain degree of freedom to the controlled, whose domination is not perceived as constrictive. Deleuze's warning on the advent of societies of control calls for an update of Simondon's mechanology and the consideration of the new regimes of individuation produced by the digital. Following the line of interaction that we have drawn between the two philosophers, we are able to bring forward Simondon's work through Deleuze's description of smooth spaces. This allows to sketch how digital technologies of power exploit the very mechanism of individuation to covertly steer the lives of the users, encouraging an online freedom of interaction that is then exploited to inform control.

It is on the basis of this diagram that, maybe, the alienation produced by being used and monitored by the machine of control can start to be fought. Suggestion algorithms deprive us of the freedom to individuate through the digital. The fight for the control of our own collective futures has then to be moved to a new battlefield expanding among and above analogue boundaries and threatening to swallow us all, indistinctly: 'This is the enveloping or enveloped character of smooth space' (Deleuze & Guattari 1987: 485).

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